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ABSTRACT

This study investigated students' perceptions of the open-space environment. It focused on their likes and dislikes concerning open space, perceptions of instructional practices and suggestions for improving and utilization of open space in their schools. The study was conducted as part of a Teacher Corps project sponsored jointly by the School of Education at Stanford University and Herbert Hoover Junior High School, San Jose Unified School District, San Jose, California. Besides the type of information collected, this study differs from previous studies in another respect. Open-ended interviews were used rather than forced-choice survey questionnaires which would have limited students in their responses. This method also avoided problems associated with the low academic achievement levels of some of the students in the sample. The relatively free interchange between the interviewer and the respondents permitted the interviewer to discover whether or not each student understood each question. (Author)

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Students' Perceptions of Behavior and Instructional Practices in Open-Space Schools

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Robert R. Nolan

A paper presented at the Annual Meeting of the American Educational Research Association, New York, New York, April 1977.

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Students' Perceptions of Behavior and Instructional Practices in Open-Space Schools

Mary T. Gauvain, Susan Stavert Roper and Robert R. Nolan

For the past decade, open-space schools have been built throughout the United States, Canada, and Australia. Radically different in design from more traditional structures, open-space schools have large instructional areas undivided by interior walls. These instructional areas are equivalent to two or more standard size classrooms and are designed to accomodate a corresponding number of teachers and students.

This study investigated students' perceptions of the open-space environment. It focused on their likes and dislikes concerning open space, perceptions of instructional practices and suggestions for improving the utilization of open space in their schools. The study was conducted as part of a Teacher Corps project sponsored jointly by the School of Education at Stanford University and Herbert Hoover Junior High School, San Jose Unified School District, San Jose, California.

Review of literature on the effects of open space on students

There have been a large number of studies concerning the effects of open space on students. These studies fell into four main categories: impact upon academic achievement, student self-concept, student behavior, and perceptions of the physical environment.

Academic Achievement.

The majority of the studies concerning the effects of open space on students have investigated academic achievement. In two separate studies in which students in self-contained classrooms were used as a control group, the data indicated that the open-space students performed significantly better on both reading and math achievement tests (Allen, 1974; Reid, 1972). The findings from another achievement study indicated that after students had been in an open-space school for at least two years, their mean achievement gains were significantly better during the third year and for the total three year period than were those of the control group who were students in self-contained classrooms (Killough, 1971).

Results from other studies, however, have indicated significantly lower achievement scores, when IQ's were held constant, for open-space students than for those in both self-contained and departmentalized schools which are

schools sub-divided according to subject areas (Sackett, 1971; Townsend, 1971).

Additional studies found no consistent or significant differences in academic achievement between open-space and self-contained classrooms as measured by standardized tests (Spigel, 1974; Read, 1973; Harrington, 1971, Warner, 1970. Thus, the data regarding open-space schools and academic achievement is, on the whole, contradictory.

Student Self-Concept

Most of the studies which have focused on the effects of open-space on student self-concept suggest that the open-space environment facilitates the growth of more positive self-concepts on the part of students (Beals, 1972; Beckley, 1972; Heimgartner, 1972; Purkey, Graves, and Zeliner, 1970). However, LaForge (1972) found no significant differences in personality characteristics except for some evidence that open-space students were more sensitive to the needs of others, and Sackett (1971) reported significantly lower self-concept scores among open-space students than those in self-contained classrooms.

Student Behavior

Several studies have focused on the level of activity in open-space areas as compared with self-contained classrooms. One study reports more physical activity in open-space schools; this includes both movement and the use of a variety of equipment (Metropolitan Toronto School Board, 1972). Leuders-Salmon (1972a) found approximately twice as much student movement in open-space areas as in self-contained classrooms.

Antifant (1972) found that students who were in open-space for three or more years were more inclined to take risks (as measured by a series of game tasks) than students who had three or more years experience in self-contained classrooms. A study by the York Board of Education (1970) found more evidence of students initiating and pursuing their own activities and assuming greater personal responsibility for their own learning in open-space than in self-contained classrooms. Meyer and Cohen (1971) observed that when students in open space asked for help, it was usually in the design and carrying out of independent work. Angus' observational reports (1975) indicated a greater variety of student behaviors (e.g., independent work, small group work) at any one time in open-space areas than in self-contained classrooms.

Perceptions of the Physical Environment

Most studies relating to students' perceptions of the physical and environmental features of open space indicate noise as the major complaint

(Tedrick, 1973; Heimgartner, 1972; Rowland and Boeker, 1972; Leuders-Salmon, 1972b; Cheek, 1970; Richardson, 1970; School of Broward County, Florida, 1970; Ledbetter, 1969). However, Kyzar (1971) found that, for the most part, the actual overall sound levels in the tested open-space areas and self-contained classrooms were almost alike (mean of sixty-five decibels in self-contained classrooms compared with a mean of seventy decibels in open-space areas). Kyzar concluded that, while this difference is statistically significant, it is unlikely to affect performance and perhaps those who complain of the noise are actually bothered by additional visual distractions.

Tedrick (1973) reported that students did not perceive visual elements that were particularly distracting to them in open-space areas. Giles and Tedrick (1975) also reported that students overwhelmingly approve of the lighting, the use of carpeting, the location of the library/media center, the temperature level and the window space in their open-space areas.

Purpose of the study

Most of the literature on the effects of open-space schools on students are objective assessments of student achievement, attitudes or behavior. Few studies have examined students perceptions of the open-space environment and these studies have focused on physical aspects. While students' reactions to the physical aspects of the open-space environment may be useful to those planning to design a new school, they provide little assistance to those trying to improve a school after it is constructed and occupied.

The teachers in the Hoover/Stanford Teacher Corps project wanted to know about students' reactions to the use of the new open-space facility. The school staff argued that this information was vital in improving their instructional program. Our study was conducted to provide this information. Besides the type of information collected, this study differs from previous studies in another respect. Open-ended interviews were used rather than forced-choice survey questionnaires which would have limited students in their responses. This method also avoided problems associated with the low academic achievement levels of some of the students in the sample. The relatively free interchange between the interviewer and the respondents permitted the interviewer to discover whether or not each student understood each question.

Procedure

Interviews were conducted with forty-seven students from three junior high schools. These students had moved approximately two months previously from

self-contained classrooms to new open-space facilities. The interviews were conducted in the Spring of 1976. Forty-one of the students were in the seventh grade and six were in the eighth grade. Teachers were more interested in hearing the opinions of the seventh grade students since these students would be returning the following year. Twenty-five of the students were male and twenty-two were female.

Twenty-four of the students were randomly selected by the interviewer. The other twenty-three were teacher selected. Teachers were asked to select students who would not be shy about voicing their opinions. Sixteen of the interviews were conducted with the use of a videotape camera, the remaining thirty-one were tape-recorded.

During the interview each student was asked the following twelve open-ended questions. Each student was also given an opportunity to suggest solutions to any problems which he/she mentioned.

1. Were you in an open-space elementary school? If yes, what is different here from your open-space elementary school?
2. What are the things you like about open space?
3. What are the things you dislike about open space?
4. Does the noise in the open-space area ever bother you? If yes, how does it bother you?
5. Does anything you see in the open-space area bother you?
6. Is it easier or harder for you to concentrate in the open-space area (than in the self-contained classroom)?
7. How often do you use the Media Center? What do you do there?
8. Do you get to do more or different things in the open-space area? Explain.
9. If you were a teacher, what would you do to make open space better?
10. Do you like open-space better than self-contained classrooms?
11. If you could choose, would you like to be in open space next year?
12. Is there anything else you would like to tell me about open space?

Findings

Likes and dislikes.

Eighty-seven percent of the students reported that they liked open-space better than self-contained classrooms and if they could choose would want to return to open space the following year. Forty-nine percent of the students

responded that increased freedom of movement and greater opportunities to work with others, both teachers and students, were what they liked most about open space. Fifteen percent said they liked the easy access of the Library/Media Center and the private study areas available there. The remaining students mentioned a variety of things they liked, such as spaciousness and an improved social environment.

Seventy-five percent of the students interviewed identified noise as the major problem in their open-space school. These students mentioned that noise made it difficult for them to concentrate during testing and reading, to hear in the back of a class area, and to interact in small groups. Sixty-eight percent of the students said that the most distracting noises were the voices of teachers and students from other class areas. Thirty percent mentioned the sound from films in nearby class areas as distracting. A few students found that noise from the Media Center distracted them when they were in a nearby area or working in the Media Center itself. Thirty-five percent of the students indicated that the picture from a film shown in an adjacent class area was visually distracting. Twenty percent said that seeing other teachers and students was a distraction. These visual and noise problems were severe enough to a quarter of our sample that they suggested the best way to improve the open-space environment was to put up walls.

Perceptions of Instructional Practices in Open Space.

Forty-five percent of the students stated that the open-space environment provides more options for themselves and for the teachers than did the self-contained classroom. The two options most frequently mentioned were joining classes for a lesson or project and the use of the Library/Media Center. Fifteen percent felt, however, that open space offered fewer options than the self-contained classroom and said they were getting less individual attention there.

Fifty-five percent of the students said they used the Library/Media Center at least once a week, with the remainder of the students reporting that they use it very infrequently. Ten percent of the students explained that they had great difficulty in getting a pass to the Library/Media Center, if they did not indicate a specific project they were working on or a book they were looking for. While in the Library/Media Center, forty-nine percent of the students reported that they used the audio-visual equipment most of the time, while forty percent used printed materials most often. Eleven percent said they went to the Library/Media Center mainly to have privacy working in the small study rooms.

Sixty percent of the students felt that their behavior was more constrained in the open-space facility than it had been in the self-contained classroom. They said that even though the teachers allowed for a greater variety of activities in open-space, there were many more constraints placed upon the students' behavior (e.g., teachers constantly telling students to lower their voices). Many students believed that these constraints were caused by the teachers' fear of disturbing others in the open-space area. Some students reported that teachers communicated greater tension as a result of this fear.

Another difference they were experiencing was an increased amount of classwork. The students felt that the teachers assigned more classwork to minimize student restlessness, as well as to assist them in coping with the added distractions of the open-space environment by keeping them busy. However, forty-nine percent of the students found it more difficult to concentrate in the open-space area than in the self-contained classroom.

Suggestions for improving utilization of open space

When asked what would they do to improve open-space if they were teachers, fifty-three percent of the students suggested specific instructional practices to help improve the use of the open-space environment. The most common were for the teachers to do more team teaching, coordinate class activities within open-space areas, provide more contracts and individual work for students, help students develop concentration skills, and develop a system of communication between open-space areas so that teachers and students can let others in the open-space areas know when they are disturbing one another.

A few students recommended that teachers periodically check to see if all students can hear them. Some suggested that students with problems (e.g., hearing or discipline) be brought closer to the teacher. Others said they hoped teachers would not "dump" problem students in the Library/Media Center because this practice interferes with the students who are trying to work there. A few students also suggested that teachers lower their voices when scolding a student so as not to embarrass them in front of the "entire school."

Differences among the three schools.

The only differences among the three schools were between Herbert Hoover Junior High School which had an extensive program preparing staff and students for open space and the two schools which had little preparation for utilizing open space. This program included bimonthly meetings to plan for a smooth

transition to the new open-space facility, reviewing research on open-space schools, interviewing practitioners who were veteran teachers in open-space schools, field visits to local open-space schools, presentations to every social studies class (for the purposes of acquainting students with the new building and eliciting their ideas for a smooth transition), and faculty and departmental meetings to agree on common standards for teacher and student behavior in the open-space building (see Roper and Nolan, 1977, 1976).

Students from Hoover were markedly more positive and hopeful about the potentials of the new learning environment. They were more likely to report that teachers were trying new ways of organizing their classes and working together. Of the three schools, only the Hoover students mentioned that teachers were planning together more in open space, and were trying to work with one another to cope more effectively with noise and visual distractions. More than twice as many Hoover students reported more options in the open-space environment than students in the other two schools. On the whole, the students at Hoover did not report finding open space as restrictive as the students from the other two schools. Comments from those students ranged from "I wouldn't want to be closed in again" to "it is easier to work here and get closer with other people".

Implications

Given the wide range of studies on open-space schools it is surprising that so little has been done to discover what students think about the use of this environment. The paucity of research on students' perceptions suggests that researchers believe students have no opinions or that their opinions are not important.

The investigators found that students could contribute a fresh and valuable picture of behavior and instructional practices in open-space schools. Contrary to the promise of greater freedom and flexibility in the open-space environment, most students reported that their behavior was more constrained in open-space than in self-contained classrooms. Teacher fear of disturbing other teachers and students prevented full exploitation of the potentials of open space. Students also provided some excellent suggestions for improving their schools.

The findings of this study imply that there is a need for a periodic assessment of the perceptions of all those who use an educational environment concerning the use of that environment. It also implies that students

are not only aware of many of the problems in their schools, but can provide good ideas for helping to solve those problems. Students' suggestions should be systematically elicited and shared with teachers and administrators.

The more positive experience with open space reported by students in the school which had an intensive preparation program emphasizes, once again, the need for adequate preparation of both teachers and students for any educational innovation. While the thrust of much in-service education is to prepare teachers to implement innovations, there is little attention given to preparing students for these same innovations. This deficiency is particularly alarming since, in the last analysis, the success or failure of an educational innovation depends upon its impact on students. Until students are seen as active participants in the process of education, rather than passive recipients, it is unlikely that their contribution to making innovations work will be recognized.

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